Van Waters & Rogers Inc.
subsidiary of **Univar**

BOX 1431
PHOENIX, AZ 85001
PHONE (602) 272-3272

February 23, 1993

Mr. Ron Lane
Idaho Department of Health & Welfare
Division of Environmental Quality
1420 North Hilton
Boise, ID 83730-9000

Re: Van Waters & Rogers Inc.'s West Boise Index Well Sampling Report

Dear Ron:

Enclosed are the results of the Index Well sampling performed on January 26, 1993. A total of two samples were collected from the well, sample numbers 93012601 and 93012602. In addition, one laboratory-prepared travel blank was analyzed, sample number 93012603.

Approximately 90 gallons of water were purged from the well prior to sample collection. After the indicator parameters stabilized, Ph measurements ranged between 7.57 and 7.59 and temperatures between 51.1 and 51.7 degrees Fahrenheit were recorded. Electrical conductivity stabilized at 583 umhos/cm. The water was clear in appearance and no odors were detected.

The sampling procedures followed standard protocol. Three 40 milliliter VOA vials were collected for each sample. The samples were collected directly from the home's outside spigot while the water was discharging at a very low flow rate to minimize loss of volatiles. The samples were labeled, stored and transported in a ice-cooled cooler under chain of custody to Analytical Technologies, Inc.'s laboratory in Renton, Washington. The samples were analyzed using EPA Method 8010.

No compounds were found in the laboratory-prepared travel blank. Perchloroethylene was found in the Index Well samples at 180 and 200 ug/L. These data are consistent with previous analytical results. Trichloroethene was found in one of the Index Well samples at a concentration of 0.4 ug/L, while the other sample contained no detectable concentrations of trichloroethene.

If you have questions or comments, please contact me at 602/272-3272 or Mike Gaudette at 208/362-6545.

Sincerely,

Gail Clement
Senior Project Manager

Enclosure

cc. Rob Howarth, IDEQ
Wayne Grotheer, VW&R
Mike Gaudette, VW&R
Scott Vokey, Preston Thorgrimson Shidler Gates & Ellis
Chris Smith, Harding Lawson Associates

Analytical Technologies, Inc.

ATI I.D. # 9301-135

SAMPLE CROSS REFERENCE SHEET

CLIENT : HARDING LAWSON ASSOCIATES
PROJECT # : 1098701
PROJECT NAME : VWR - BOISE

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9301-135-1	93012601	01/26/93	WATER
9301-135-2	93012602	01/26/93	WATER
9301-135-3	93012603	01/26/93	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	3

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 9301-135

ANALYTICAL SCHEDULE

CLIENT : HARDING LAWSON ASSOCIATES
PROJECT # : 1098701
PROJECT NAME : VWR - BOISE

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PURGEABLE HALOCARBONS	GC/ELCD	EPA 8010	R

R = ATI - Renton
SD = ATI - San Diego
PHX = ATI - Phoenix
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

AnalyticalTechnologies,Inc.

ATI I.D. # 9301-135

CASE NARRATIVE

CLIENT : HARDING LAWSON ASSOCIATES
PROJECT # : 1098701
PROJECT NAME : VWR - BOISE

CASE NARRATIVE: VOLATILE ORGANICS ANALYSIS

These samples were analyzed by EPA method 8010 as follows:

Five mLs of sample were spiked with surrogate solution and analyzed by GC/PID/ELCD with a purge and trap device. All quantitations were made from a DB-624 capillary chromatography column. All quantitations were made using the internal standard method of quantitation.

The method blanks were free of target compounds. All surrogate percent recoveries were within ATI control limits. The percent recoveries in the blank spike and the matrix spikes were within ATI control limits. The matrix spike/matrix spike duplicate (MS/MSD) relative percent differences (RPDs) were also within ATI control limits.

All sample analysis hold times were met.

All compounds in the initial calibration curve passed the linearity criteria of $R^2 \geq 0.995$. The percent difference was less than 15% for all compounds in the continuing calibration standards.

Analytical Technologies, Inc.

ATI I.D. # 9301-135

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: HARDING LAWSON ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: 1098701	DATE RECEIVED	: N/A
PROJECT NAME	: VWR - BOISE	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 02/01/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<1.0
CHLOROFORM	<0.2
CHLOROMETHANE	<2.0
1,2-DIBROMOETHANE (EDB)	<0.5
1,2-DICHLOROBENZENE	<0.5
1,3-DICHLOROBENZENE	<0.5
1,4-DICHLOROBENZENE	<0.5
DIBROMOCHLOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
CIS-1,2-DICHLOROETHENE	<0.2
TRANS-1,2-DICHLOROETHENE	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<1.0

SURROGATE PERCENT RECOVERY		LIMITS
BROMOCHLOROMETHANE	107	58 - 126

Analytical Technologies, Inc.

ATI I.D. # 9301-135

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: HARDING LAWSON ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: 1098701	DATE RECEIVED	: N/A
PROJECT NAME	: VWR - BOISE	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 02/04/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<1.0
CHLOROFORM	<0.2
CHLOROMETHANE	<2.0
1,2-DIBROMOETHANE (EDB)	<0.5
1,2-DICHLOROBENZENE	<0.5
1,3-DICHLOROBENZENE	<0.5
1,4-DICHLOROBENZENE	<0.5
DIBROMOCHLOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
CIS-1,2-DICHLOROETHENE	<0.2
TRANS-1,2-DICHLOROETHENE	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<1.0

SURROGATE PERCENT RECOVERY		LIMITS
BROMOCHLOROMETHANE	93	58 - 126

Analytical Technologies, Inc.

ATI I.D. # 9301-135-1

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: HARDING LAWSON ASSOCIATES	DATE SAMPLED	: 01/26/93
PROJECT #	: 1098701	DATE RECEIVED	: 01/27/93
PROJECT NAME	: VWR - BOISE	DATE EXTRACTED	: N/A
CLIENT I.D.	: 93012601	DATE ANALYZED	: 02/01/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
BROMODICHLOROMETHANE	<0.2	
BROMOFORM	<0.2	
BROMOMETHANE	<1.0	
CARBON TETRACHLORIDE	<0.2	
CHLOROBENZENE	<0.5	
CHLOROETHANE	<1.0	
CHLOROFORM	<0.2	
CHLOROMETHANE	<2.0	
1,2-DIBROMOETHANE (EDB)	<0.5	
1,2-DICHLOROBENZENE	<0.5	
1,3-DICHLOROBENZENE	<0.5	
1,4-DICHLOROBENZENE	<0.5	
DIBROMOCHLOROMETHANE	<0.2	
1,1-DICHLOROETHANE	<0.2	
1,2-DICHLOROETHANE	<0.2	
1,1-DICHLOROETHENE	<0.2	
CIS-1,2-DICHLOROETHENE	<0.2	
TRANS-1,2-DICHLOROETHENE	<0.2	
1,2-DICHLOROPROPANE	<0.2	
CIS-1,3-DICHLOROPROPENE	<0.2	
TRANS-1,3-DICHLOROPROPENE	<0.2	
METHYLENE CHLORIDE	<2.0	
1,1,2,2-TETRACHLOROETHANE	<0.2	
TETRACHLOROETHENE	180	D6
1,1,1-TRICHLOROETHANE	<0.2	
1,1,2-TRICHLOROETHANE	<0.2	
TRICHLOROETHENE	<0.2	
TRICHLOROFLUOROMETHANE	<0.5	
VINYL CHLORIDE	<1.0	

SURROGATE PERCENT RECOVERY		LIMITS
BROMOCHLOROMETHANE	104	58 - 126

D6 = Value from a 50 fold diluted analysis.

Analytical Technologies, Inc.

ATI I.D. # 9301-135-2

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: HARDING LAWSON ASSOCIATES	DATE SAMPLED	: 01/26/93
PROJECT #	: 1098701	DATE RECEIVED	: 01/27/93
PROJECT NAME	: VWR - BOISE	DATE EXTRACTED	: N/A
CLIENT I.D.	: 93012602	DATE ANALYZED	: 02/01/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
BROMODICHLOROMETHANE	<0.2	
BROMOFORM	<0.2	
BROMOMETHANE	<1.0	
CARBON TETRACHLORIDE	<0.2	
CHLOROBENZENE	<0.5	
CHLOROETHANE	<1.0	
CHLOROFORM	<0.2	
CHLOROMETHANE	<2.0	
1,2-DIBROMOETHANE (EDB)	<0.5	
1,2-DICHLOROBENZENE	<0.5	
1,3-DICHLOROBENZENE	<0.5	
1,4-DICHLOROBENZENE	<0.5	
DIBROMOCHLOROMETHANE	<0.2	
1,1-DICHLOROETHANE	<0.2	
1,2-DICHLOROETHANE	<0.2	
1,1-DICHLOROETHENE	<0.2	
CIS-1,2-DICHLOROETHENE	<0.2	
TRANS-1,2-DICHLOROETHENE	<0.2	
1,2-DICHLOROPROPANE	<0.2	
CIS-1,3-DICHLOROPROPENE	<0.2	
TRANS-1,3-DICHLOROPROPENE	<0.2	
METHYLENE CHLORIDE	<2.0	
1,1,2,2-TETRACHLOROETHANE	<0.2	
TETRACHLOROETHENE	200	D6
1,1,1-TRICHLOROETHANE	<0.2	
1,1,2-TRICHLOROETHANE	<0.2	
TRICHLOROETHENE	0.4	
TRICHLOROFLUOROMETHANE	<0.5	
VINYL CHLORIDE	<1.0	

SURROGATE PERCENT RECOVERY		LIMITS
BROMOCHLOROMETHANE	100	58 - 126

D6 = Value from a 50 fold diluted analysis.

Analytical Technologies, Inc.

ATI I.D. # 9301-135-3

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: HARDING LAWSON ASSOCIATES	DATE SAMPLED	: 01/26/93
PROJECT #	: 1098701	DATE RECEIVED	: 01/27/93
PROJECT NAME	: VWR - BOISE	DATE EXTRACTED	: N/A
CLIENT I.D.	: 93012603	DATE ANALYZED	: 02/01/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<1.0
CHLOROFORM	<0.2
CHLOROMETHANE	<2.0
1,2-DIBROMOETHANE (EDB)	<0.5
1,2-DICHLOROBENZENE	<0.5
1,3-DICHLOROBENZENE	<0.5
1,4-DICHLOROBENZENE	<0.5
DIBROMOCHLOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
CIS-1,2-DICHLOROETHENE	<0.2
TRANS-1,2-DICHLOROETHENE	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<1.0

SURROGATE PERCENT RECOVERY		LIMITS
BROMOCHLOROMETHANE	102	58 - 126

Analytical Technologies, Inc.

ATI I.D. # 9301-135

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT : HARDING LAWSON ASSOCIATES
PROJECT # : 1098701
PROJECT NAME : VWR - BOISE
SAMPLE MATRIX : WATER
EPA METHOD : 8010

SAMPLE I.D. # : 9301-135-1
DATE EXTRACTED : N/A
DATE ANALYZED : 02/01/93
UNITS : ug/L

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
CHLOROBENZENE	<0.500	8.00	9.38	117	9.58	120	2
1,1-DICHLOROETHENE	<0.200	8.00	7.07	88	7.04	88	0
TRICHLOROETHENE	<0.200	8.00	9.81	123	10.1	126	3

CONTROL LIMITS	% REC.	RPD
CHLOROBENZENE	61 - 160	33
1,1-DICHLOROETHENE	37 - 182	22
TRICHLOROETHENE	61 - 149	21

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOCHLOROMETHANE	107	103	58 - 126

AnalyticalTechnologies,Inc.

ATI I.D. # 9301-135

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT : HARDING LAWSON ASSOCIATES
PROJECT # : 1098701
PROJECT NAME : VWR - BOISE
SAMPLE MATRIX : WATER
EPA METHOD : 8010

SAMPLE I.D. # : BLANK SPIKE
DATE EXTRACTED : N/A
DATE ANALYZED : 02/01/93
UNITS : ug/L

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
CHLOROBENZENE	<0.500	8.00	8.97	112	N/A	N/A	N/A
1,1-DICHLOROETHENE	<0.200	8.00	7.60	95	N/A	N/A	N/A
TRICHLOROETHENE	<0.200	8.00	9.62	120	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
CHLOROBENZENE	79 - 141	33
1,1-DICHLOROETHENE	56 - 158	22
TRICHLOROETHENE	72 - 138	21

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOCHLOROMETHANE	99	N/A	58 - 126

Analytical Technologies, Inc.

ATI I.D. # 9301-135

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT : HARDING LAWSON ASSOCIATES
PROJECT # : 1098701
PROJECT NAME : VWR - BOISE
SAMPLE MATRIX : WATER
EPA METHOD : 8010

SAMPLE I.D. # : BLANK SPIKE
DATE EXTRACTED : N/A
DATE ANALYZED : 02/04/93
UNITS : ug/L

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
CHLOROBENZENE	<0.500	8.00	9.03	113	N/A	N/A	N/A
1,1-DICHLOROETHENE	<0.200	8.00	8.01	100	N/A	N/A	N/A
TRICHLOROETHENE	<0.200	8.00	10.7	134	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
CHLOROBENZENE	79 - 141	33
1,1-DICHLOROETHENE	56 - 158	22
TRICHLOROETHENE	72 - 138	21

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOCHLOROMETHANE	104	N/A	58 - 126

4501-135

Harding Lawson Associates
7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
415/892-0821
Telecopy: General: 415/892-0831
Accounting: 415/898-1052

CHAIN OF CUSTODY FORM

Lab: ATI, Inc.

Samplers: Michelle ~~Watson~~ Beekman

Job Number: 10987 01

Name/Location: VWDR Boise

Project Manager: Michelle Beekman

Recorder: S Michelle Beekman
(Signature Required)

	SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	# CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	4°C	SAMPLE NUMBER OR LAB NUMBER: Yr Wk Seq	DATE: Yr Mo Dy Time	STATION DESCRIPTION/ NOTES
-1	20	X				3				93 01 2601	93 01 26 1338	
	20	X				3				93 01 2602	93 01 24 1340	
-3	20	X							3	93 01 2603	93 01 26 1345	

ANALYSIS REQUESTED: EPA 601/8010 (X); EPA 602/8020 (X); EPA 624/8240 (X); EPA 625/8270; ICP METALS; EPA 8015M/TPH

LAB NUMBER: Yr Wk Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
				STANDARD TAT

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) S Michelle Beekman	RECEIVED BY: (Signature) ATI-SM	DATE/TIME 1/27/93 930
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT: FedX		

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

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